

Wikileaks, Secrecy, and Power in an Online World

By: Sam Vaknin

On November 29 Wikileaks released the first batch of documents from the leaked dump of American diplomatic correspondence. Almost a week earlier, on November 23, I published in globalpolitician.com an article titled "Korea: Imminent Unification" in which I stated that the US and China were secretly negotiating the re-unification of the Korean Peninsula. Some of the documents released by Wikileaks a week later substantiated this claim. Yet, I had no access to Wikileaks' information. My story relied on a mid-level State Department functionary who all but thrust the information down my throat with promises of much more to come.

Since then, I have contacted many other journalists and intelligence analysts: from Australia to Romania. The picture that emerges is unequivocal: in the fortnight preceding the Wikileaks "bomb", the State Department was shopping these documents (or the information contained therein) around. The State Department wanted these missives published. But few took to the bait (myself included). With the exception of my Korean story, only snippets saw the light of day prior to Wikileaks' exposure.

Then some bright star in the State Department struck gold: why not let Wikileaks have the cache of missives and kill two proverbial birds with one very real stone? The impetuous Assange is bound to swallow the bait and thus hand a valuable weapon to the USA. Every government is likely to frown on the disclosure of diplomatic correspondence. Indeed, since the publication, Wikileaks content has been removed from virtually all major servers in the world: from France to the USA. They are now confined to a tiny server farm in Uppsala, Sweden. The government of Sweden is working on shutting down even this last haven. The site is under constant Denial of Service (DoS) attacks emanating mainly from China, but aided and abetted by the USA and literally every other intelligence agency on the globe.

But why publish the documents in the first place?

Work on the cache started immediately after Wikileaks' previous release of Pentagon and military papers. Experts from the CIA, NSA, and the State Department toiled for weeks on end to put together a credible-looking dump of cablegrams that would dupe journalists and analysts into believing that it was random. Only low-level, mostly unclassified material went in. But this ocean of digitized paperwork contained morsels that were intended to send targeted messages to America's allies and foes alike:

1. Message to Iran: You are completely isolated. Even the Arabs want your nuclear facilities bombed.
2. Message to Israel: We are far tougher on Iran than we let on. Please let us do our job and don't meddle.
3. Message to China: North-Korean unification is seriously contemplated and definitely on the table.
4. Message to North-Korea: Even China, your staunchest supporter, has turned against you.

5. Message to Turkey: We know about your double-dealing. In the heat of exchanges with al-Qaida and Iran, don't forget your primary allegiance to the military alliance with the West and especially with us, the USA.

6. Message to Greece: We know about your attempts at fomenting inter-ethnic tension in Macedonia. We want the name dispute with Macedonia resolved, to allow NATO and EU enlargement to the western Balkans to proceed.

7. Message to Russia: We have incriminating evidence against the highest echelons of your leadership and we will not hesitate to release it should you continue to obstruct our policies.

Wikileaks have been duped and sacrificed on the altar of high-stakes geopolitics. Its days are numbered. I don't envy Assange as well. He allowed his inflated, messianic, and self-important ego to get the best of him and now he is a hunted man. The State Department have pulled off a brilliant manoeuvre. Hat off to their creativity and panache.

*An Epistolary Dialogue Between
Roberto Calvo Macias and [Dr. Sam Vaknin](#) (April 2000)*

Dear RCM,

I liked the epistolary format. If you agree - shall we continue at least one more dialogue this way?

I want to suggest the title (heavily borrowed from you): THE SECRET ART OF POWER. What sayeth you?

Here is a quote I found somewhere, I don't even recall where:

"Only art history still knows that the famed geniuses of the Renaissance did not just create paintings and buildings, but calculated fortresses and constructed war machines. If the phantasm of all Information Warfare, to reduce war to software and its forms of death to operating system crashes, were to come true, lonesome hackers would take the place of the historic artist-engineers."

This is a problematic statement because it ignores the emergent property of genius. The "famed geniuses of the Renaissance" did not interact with their calf hide and sharpened quills the same way an hacker interacts with the network or even with his computer. Hackers are, by definition, dependent on computing collectives. Galileo worked in the solitude of his rooms during his long inquisition-imposed house arrest. An hacker without vast and sprawling communications and computing (information) networks is dead, paralysed, a non-entity. Paradoxically, the hacker is by far the most social artist ever to have existed. The romantic view

of the hacker (lonely, tortured genius, a-la Van Gogh) is the result of ignorance and fear. Genius today is a distributed, collective phenomenon and the medium of the hacker is the distributed, collective network. The internet is a mass phenomenon, a MOB phenomenon, in the derogatory sense that Jose Ortega y Gasset used - but it is also a chance to focus the actions of millions of individuals into a coherent, powerful, laser beam of awareness and activism.

I am dwelling on this point because it is very pertinent when discussing the loci of power and the possibilities of modern cyber-warfare. And I am dwelling on cyber-warfare for two reasons. First, it is in war or conflict that the true locus and magnitude of power is measured. Second, art and warfare have always been intimately connected and I see no reason that this should change anytime soon. Both art and warfare are community-mandated and, as such, will never disappear as long as there are human communities (man as "zoon politicon"). Additionally, both art and warfare involve inordinate amounts of cryptography, either in the form of private languages (poetry), or of hermetic hermeneutic conventions (as in modern painting), or in real life, "Alan Turing" style codes. Not to mention the inevitability and indispensability of codes in modern computer networks. No doubt, this is the age of codes, a crypto-age, when the more data is available to us, the less information, not to say knowledge, we have.

This century started as the great age of euphemism, the simplest form of code, a coarse way to secure power from scrutiny. Thus "War" became "Defence" (the Department of Defence, the Defence Forces), gas chambers became baths and the extermination of people became final solution or cleansing. It was a crude experimentation by the power elites with Man's propensity to deny and repress unpleasant information if provided with a half-plausible alternative. The age of political correctness started with the fin de siècle of the previous century not with the fin de siècle of this one.

It is by no mere chance or coincidence that modern computer systems - actually most modern technology - is a direct result of warfare, war budgets and the evolution or the attempted evolution of weaponry.

Thus, military and civil, offence and defence, war and peace, weapons and machinery, scientist and warrior, artist and warrior, codes and information, denotates and connotates, distant and near, here and there - were blurred beyond re-distinction in this century. An Orwellian newspeak emerged. The overt codes - the ones learned by every kid (language, totems, insignia, behaviour) were all but subsumed by covert codes (ones which require special learning or initiation). It is a stonewalling world, a source of frustration and alienation. It is a narcissistic world in that it harbours no empathy. People have to learn how to be themselves because if they don't - the world will not recognize them as distinct entities. Becoming became a process of tuition rather than an a-priori, evolutionary unfolding. We

decode our lives today, slowly, meticulously, painfully. Power is obtained only by those who master their lives as well as the lives of others.

Part of the problem is the ephemeral nature of our raw materials. In the (near) past a leader, a businessman, an aristocrat - in short, the powers that be - would have likely used tangibles to assert and exert their power (land, clothes, status symbols, canons, even books). Today, we are all forced to use information that is being more and more digitized. This is a perishable commodity, a degradable weapon, an ethereal tool. It is unevenly distributed (corporations and governments have more computing power and raw data at their disposal). And it has no history or veracity. It can be easily manipulated. It often is. And there is too much of it - so much that we lose sight and track and are unable to tell the wheat from the chafe, the true from the false, the relevant from the irrelevant.

Thus, the real weapon of the individual, his way to fight back, is the dissemination of his preferred information - namely, the **ABOLITION OF CODES AND SECRETS**. This is a first in human history. In the past, both individuals and social structures aspired to maintaining secrecy and to gaining access to secrets (read Dumas). There was a general scramble to scramble and unscramble. The notion of privacy - still with us despite its utter anachronism in this age of the internet - springs from this old dependence on codes and secrets.

But now we are amidst a revolution. Individuals aspire to DE-code to DE-secretize what corporations and governments seek to EN-code and keep in secret. This is "power people" which threatens the Bastille of secrecy erected by numerous generations and enshrined in numerous legal codes. How ironic it is that it was the "defence" establishment, the most secretive of all, the most powerful by far - that unleashed upon us the internet, the guarantor of its very own and ultimate destruction. The technology is there. The will is forming. The most coded technology in the world - computer information networks - will foster a world free of codes and secrets.

Carpe diem, quam minimum credula postero

Ciao,
Sam

Dear Sam,

As your letter proves, the concepts (figures) of our new dialogue are multi-layered, they apply to almost any human problem. But, to better position our concepts of secret/power we must first establish a description of our space-time board. First, we must know that the information field is n-dimensional. Secondly, that temporal

connections are at the speed of light, that is to say, that there is simultaneity in information-space.

These new features change time-space in such a manner that all other concepts are affected (for instance: the transfer of information).

Only with these new features in mind can we make a strategic and tactical approach to secret/power relations.

For instance, your assertions on the disappearance of genius, on the new "middle-age-like" style of art-work are common nowadays (certainly, technological advances favour this kind of neo-corporative art). But, it is the opposite which really happens, for the technological process is, to put it with the fortunate expression of E. Jünger, a kind of "canalization", a "channelling". At the end of this channelling is a non-linear "interconnected chaos":-). In n-dimensional space and simultaneity the centre disappears to re-appear in any-place (like in Kosovo - the centre of universe - this year).

Precisely such a "re-ligare" organization doles out a higher power to individuals, to the artist-tyrant (in fact, it gives too much power to individuals, a kind of super-Cesarism). It was no coincidence that Julius Caesar concentrated his efforts on the re-structuring of society after the civil war and on freeing the professions and the corporations (he saw the dangers of inertial masses).

This special configuration of center-everywhere is characteristic of a technology expanding. The latter works rather like a combustion engine. This "paradoxical" union of violent explosion and mathematically planned progression is one of the foremost symbols of technology. It gives technology that unique and extreme taste: cold and hot at the same time.

The problem gains complexity when we introduce secrecy into such a space (i.e., into simultaneity and n-d). For instance: what happens if I have an X-File, it just means that at the very same minute the whole internet is likely to have it. This changes the concept of a technological secret. This feature is interesting indeed because it implies that technology is opposed to having any secret. It "wants" to spread the dominion of the machine, to spread technological advantages and technological knowledge. Any attempt to "secretize" technical knowledge is condemned to fail for technology is opposed to secrecy (and, as we all know, technology is the boss).

The consequences of this no-secrecy way-of-life are yet unpredictable. One of them: the failure of the classical state (and the inevitable question: what is is beyond the state?).

We must also re-define power in the virtual space. The organizational coverage provided by the use of technology (cybernetic, monitoring, feedback, etc.) improves the ability of the the "top-gun" to manipulate information. All weapons controls are being transferred to machines and codes. Fighting metamorphesized into a cryptic, Pythagorean version. The "front" disappears and currently reigning strategic concepts (such as the polarity of Fire versus Movement) lose validity, for the front is in everywhere and fire/movement are just complemented sides of a mathematically planned progression.

It remains to be asked if there is a higher "level" of information warfare, a higher use of the secret art of power.

We can discuss this hypothesis in the next letter, but let's think of the following:

Every art work (books, for instance) has many levels of content.

Every great book (Faust, for instance) has superior levels, accessible only to the to few.

How is it that secret knowledge is hidden in an open book?

What kind of encoding did Goethe use?

wishing you the best
roberto

Dear Roberto,

I apologize for my late response. I was learning how to exercise power...:o))

I enjoyed your letter greatly. You finally provided me with an insight as to why we feel so ambivalent about technology. But in this letter I would like to attempt a phenomenology of knowledge and the power it exercises or is associated with.

David Deutsch in his "Fabric of Reality" tried to fuse Dawkins' "Selfish Gene" theory with particle physics, Tippler and Barrow's "Anthropic Cosmological Principle", an expanded version of the Turing Principle, Quantum Computation, a primitive version of Evolution theory - you get the picture. The book is an unmitigated disaster, in my view. But it is laden with intellectual gems. You simply have to sift through a lot of mud to get through to the diamonds.

One of his interesting observations is that knowledge - as embodied in genes - replicates itself within niches to which it gets progressively better adjusted and that these niches are "virtual realities" produced by this knowledge. Our bodies, thus, are a virtual reality (generator) manufactured by our genes (=knowledge) to allow

them to replicate. It is a hyper-rendition of Dawkins' idea of the Selfish Gene, cast in more universal terms.

Unfortunately, Deutsch stops there before formulating a general theory (or at least a phenomenology) of knowledge.

Knowledge appears in three forms:

It exists (knowledge per se) without "doing" anything (the sound of one clapping hand, so to speak). This category of "knowledge" is so broad that it includes the whole universe. Even a rock is a manifestation of this kind of knowledge.

Then there is the kind of knowledge that Deutsch deals with - the kind that manipulates the world (its environment) in order to replicate. Exactly as Deutsch suggests, this kind of knowledge creates a "virtual reality" in which it can not only survive but also self-replicate. Genes in biology are only one example of this type of "replicators". Dawkins identified another one: memes. Memes are self replicating ideas which make use of the virtual reality of human society to secure their own replication. In physics there are self-replicating crystals. In mathematics, certain classes of functions. And so on.

But there is a third type of knowledge. It replicates IN ORDER to manipulate the world (its environment). Compare it to Deutsch's kind which manipulates the world (its environment) IN ORDER to replicate. The polarity, the dichotomy, are clear. The Deutsch Knowledge (classic replicators) is an EFFECT of the manipulation of the world (and it tends to be physical, like genes). The Vaknin Knowledge (pardon the immodesty) is the CAUSE of the manipulation of the world (and it tends to be more abstract, like memes).

That Vaknin Knowledge is used to exert power upon an unsuspecting world is easy to demonstrate. If I know that you committed a crime I can blackmail you. If I know how to build a bridge I can make you use my services. If I sweet talk appropriately I can make girls make love to me. If I am a good therapist I can manipulate, even alter, the structure and activity of your brain through talk therapy. In short: knowledge exercises real influence on the physical world.

The Deutsch knowledge does so by being present in the right CONTEXT. We discussed this in another of our dialogues ("[The Nature of Reality](#)"). In the absence of context, Deutsch Knowledge is meaningless and, in the absence of meaning, it is dubious whether it remains knowledge at all, or, at least, whether it is a UNIVERSAL form of knowledge. DNA cannot manipulate an environment devoid of amino acids and, therefore, cannot build proteins there. It has no meaning without its context (its environment which it must manipulate). It has no meaning on the moon. In my view, it is not Knowledge at all or, at the least it is not a universal form of knowledge. The LOCUS of the ability to manipulate the world

(to create proteins) is unknown. The locus of the POWER is unknown. DNA without amino acids is as helpless as amino acids without DNA. How can we assuredly determine who is manipulating who? Can we say with any certainty that amino acids are not using DNA to construct proteins?

The exercise of power demands ASYMMETRY. It demand a UNI-directional flow of influence. It demands clarity and unambiguity. If there is absolute, EQUAL, dependence between A and B - one would be hard pressed to say which is exercising power over which.

All types of knowledge do three things:

They replicate - genes create organisms, ideas are repeated by brains making use of communication organs, etc. If knowledge is not replicated - how could one obtain results? How can I blackmail you without providing you with a copy (=telling you) of what I know? If a therapist does not share his thoughts (=replicates them and gives the copies to the patient) - how can he hope to affect his patient's brain?

They decode - most knowledge comes encoded. We know the world through our sense organs and brains which contain intricate mathematical models of deciphering and representation. Genes use a genetic code which is "deciphered" (acquires meaning) by the combination, Lego-like, of amino acids. And the deconstructivists taught us everything we needed to know about encoding and decoding (deconstructing) memes.

They make their environment echo or resonate. The recipient of the decoded information must be able to respond. The physical-chemical environment of the DNA must be able to respond by assembling into proteins. People respond to memes by repeating them. Humans respond to emotions by echoing and internalizing them (a phenomenon known as ["empathy"](#)). Without such resonance, knowledge has no power. It is the REACTION of the world that is desired by knowledge and that substantiates the existence of a power exchanged between the knowledge and its substrate. The resonance is often decoded itself and constitutes a new piece of knowledge, either close to the original (=replication) or different but still resembling it.

I have gone into all this theorizing to demonstrate why the concept of "centre" is intuitive but like many intuitive things, never existed in reality. The exact same knowledge (DNA, memes and other types of knowledge) is replicated all the time EVERYWHERE. What is the center of our genetic system? We have identical DNA everywhere. Where is the centre of Einstein's thoughts? They are studied everywhere. It is only when context is absent (for instance, when it is difficult to reach everywhere, simultaneously due to technological or political constraints) that an asymmetry in the distribution of knowledge is created. This (temporary)

asymmetrical distribution creates CLUSTERS which we tend to call "centres". What technology has done is to dismantle many of the past barriers, to allow (almost) simultaneity and, thus, to expose the fallacy of the centre.

Regarding secrets - they are often confused with codes. Codes were used to conceal secrets from prying sense organs - but this does not make secrets and codes identical. Secrecy is a concept closely associated with and derived from the false concept of centre. It is only when and where there is a centre (an asymmetry in the distribution of information) that secrecy (itself a purified form of knowledge asymmetry) prevails. With the dissipation of the centre (with the indispensable aid of technology) - secrecy will wane and disappear as well.

Which is absolutely not the case with codes. As I have said - coding and decoding are essential parts of the very process of knowledge formation, dissemination and prevalence. There is no such thing as a "secret code". Codes are open. It is the access to the KEY that is limited (by intelligence of the cerebral kind or by intelligence of the more sinister kind). Thus, Goethe's texts are no different to the Zimmerman telegram or the Enigma machine texts or DNA. In all four cases, the CODE is fully public - it is access to the key that is restricted.

Secrecy can be described thus: a pyramid of users interacting with an inverted pyramid (=pyramid standing on its head) of knowledge. The wide base of the users' straight pyramid interacts with the very narrow information provided by the tip of the inverse pyramid of knowledge. The tip of the pyramid of users (=a limited number of users) interacts with the biggest amount of information provided by the inverted pyramid of knowledge.

Codes are the exact opposite picture. It is an inverted pyramid of users interacting with a straight pyramid of knowledge. The wide base of the users' inverted pyramid interacts with the very narrow information provided by the tip of the straight pyramid of knowledge. The tip of the inverted pyramid of users interacts with the biggest amount of information provided by straight pyramid of knowledge.

Stay well,

Sam

Dear Sam,

Thanks for your exposition of the processes of encoding and replication. But, it raises some questions. For instance, to say, as you do, that the centre disappears has only meaning in some spaces, but what about politics: can you imagine a non-centered state? How can that be?

This, obviously, has to do with secrecy too, for the concepts of centre, hierarchy and secrecy are related. In this respect it doesn't matter what happens with secrecy, it does the same whether it is derogated or not because, as you well say, it is the key which matters. Secrets, no matter where and how they appear, are as old as life itself and will accompany it to the very end.

It is interesting to note that the Greeks used a negative word (aletheia) to mean "discovery". The act of knowledge was seen as an un-covering (decoding). We should make a distinction: the Greeks observe nature and we observe ourselves (we only decode one phantasm after the other). The Greeks had only religious restrictions (they were not allowed to talk about the visions of Eleusis). We, as "the will to power culture", had and will forever have secrets, for we understand knowledge only as a tool to be used (manipulation) to obtain power (as you have well described).

Another question is the communication of secrets. Thinkers of the Renaissance, Galileo for instance, used a curious method. He wrote some epigrams which contained (encoded) a reference to the new discovery. Then, after some time, Galileo offered an epigrammatic solution and exposed the new discovery. The moral of my time-tale is a kind of parody/homage to these methods. Nowadays, we use copyright which is one of the most interesting realms of speculative and philosophical thought - in fact secrecy, copyright and power will be the intellectual triad of the XXI century. The appearance of that C or R or TM could be compare with a virus spreading activity:-). Copyright is a curious thing. You, for instance, defend at the same time copyright and decentralization, but, how can that be? Does not the copyright concept imply precisely the existence of a Centre (the Patents Office of the Imperial Republic:-)?

E.A. Poe was one of the first (later emulated by others like A.C.Doyle) who solved the problem of a superior order. It is not by coincidence that Poe was interested in maths, hieroglyphics and conundrums - in the Gold Bug and others he exposes some decoding principles. How to encode (hide) a secret in a space? With masterly skill, Poe covers and uncovers the secret in his fascinating short story: The Purloined Letter, where he uses a beautiful and intelligent trick - and also its "counterpoint" in the (decoding) mental process of Dupin.

A more technical approach to this was made by McLuhan in the 70s. He used some Gestalt principles to explain the decoding process as a "sprouting" of figures from the background - an idea anticipated, curiously, by pre-Socratic philosophers (see Parmenides, Anaximander, Anaxagoras). We should point out that this is a mental/vision-related process. In music (mental/sound-related process), for instance, we have no limits (logoi) to the figures we can develop from the background. Music has its peculiar way of secrecy. To understand it we must note that secrecy, in most languages, has two primordial meanings:

Secret as in hidden (e.g., my secret home, etc.) and secret as dark, obscure, etc. By the way, the word "key" appears in my dictionary as the synonym of secret. That is to say, we can hide a secret, committing it to darkness (for instance, by putting it in a cave) but not necessarily so. We can place a secret, as Poe does, in plain view (so, then, the "darkness" is in the others' eye).

Music does the opposite. It sprouts, it comes from nothing, it appears, it touches but remains untouched. It's a total secret, dark and hidden in darkness.

This connection between secrecy and darkness is evident in power organizations (religious, scientific, monetary, military, etc.). It is an interesting adventure to explore these secret places (taboos) of the post-modern world: places like food-factories, currency fabrics, genetic experiments, military advances, forest exploitation and other places. All of them are almost in darkness - and this in a world which is constantly filmed. Food-factories, for instance, are a kind of medieval places, they exist but nobody has seen one:-)

Another example of an exposed secret is Goethe's Natural Theory, a small book which spent near two centuries in darkness. Then, it came to some scientific hands (Mitchell Feigenbaum and others) who made a new edition of the book, using it to explain new theories of chaos and complexity. How did it come to be? Was Goethe's book a kind of time-bomb? does it hide even more secrets?. was the secret in the book itself or in the eyes of the scientists?

roberto

RCM,

Codes can be classified according to any number of taxonomies. But I would like to concentrate in this letter on the spatial versus the temporal cyphers.

Most codes are physical entities with a limited and well-defined spatial presence. They do not evolve- they have no future. They constitute isomorphic representations of information (by "information" I mean relationships between real world entities). Knowing the "mapping principle" (the cypher) is sufficient to translate them into the information that they represent. In more than one sense, to us, humans, the whole universe is such a code. Our sense organs (coupled with representational-computational models in our brains) encode external stimuli and present it to "us". We interact with representations of the world, never with the "real thing". The acquisition of language is another such case. Children learn codes - sets of abstract symbols which stand for interactions between entities in the real world and for the cerebral representations of such entities. So, we are surrounded by codes, immersed in them, interact with them - and only with them. The application of the principle of natural selection in humans is confined to the

enhancement of our aggregate ability, as a species, to process codes. The result is that, intuitively, we identify the ability to decode and encode successfully - with the ability to survive. Codes have an inordinate importance in our lives. We are code-slaves. Small wonder that we submit to code masters.

Code masters are people who master codes of the temporal kind. It is when a web of interactions is perpetuated in time that codes of this second type emerge. These codes have an history - a past and a future. They evolve. They adapt. They are principles of organization of spatial and lower level temporal codes. They are the results of an accumulation of many generations of exegesis. Goethe's book is such a temporal code because it can be (and is) re-interpreted with the introduction of additional codes. It is adaptable and changes with time and circumstances. It is both a representation and a statement about representations, both a codes and an organizing principle of codes, both a taxonomy and a theory (rule).

The temporal codes are so complex and so kaleidoscopic that only the initiated members of specifically educated elites can master them and put them to good use on behalf of the rest of humanity. "Good use" in this case is any use that enhances humanity's ability and chances to survive. "To master" a code means to be able to so manipulate it as to effect the environment (including other codes). And "to manipulate" a code means to "map" it into reality, to extract from it both the representation (=the classic definition of decoding) and the computational model. The latter activity is known as "theory building".

We can now put all the building blocks together coherently and consistently:

Only the initiated members of specifically educated elites can map codes to reality and extract from them both representations and computational models (=manipulate them). This incessant activity is used to enhance humanity's ability and chances to survive. The manipulation of higher order (temporal) codes is also known as "wielding power". The members of these elites wield power over their fellow human beings. The latter submit to them because they believe that their chances to survive will be enhanced by allowing the elites to exercise their abilities to manipulate codes.

It is here that the related issues of secrecy and centralization arise.

Secrecy is the withholding of information. It can be done without resorting to codes. It often is. It can be done by resorting to codes and keeping a private, inaccessible key. This is also often done. But there is no necessary or sufficient condition between secrecy and encoding. The only thing linking secrecy to codes is the fact that the elites make frequent use of both. Eager to monopolize their knowledge and dispense with it only for a high, cartelized, price - the elites resort to secrecy. a common way of preserving secrecy is to encode the secret information.

The notion of centre has to do with the monopolization of knowledge. People often confuse secrets with codes and with central authority because all three have to do with the preservation and perpetuation of knowledge and information monopolies and, hence, with power.

Which leads me back to the main theme of this exchange: what will modern technologies do to these structures and processes? For instance, can knowledge monopolies be preserved in the age of the internet (in other words can codes, secrecy and centres be preserved)? Is the internet the great equalizer which will eliminate, once and for all, the existence of elites, power structures and power asymmetries? And, above all, has the manipulation of temporal (complex) codes become counterproductive and self defeating?

I have my answers to these questions - but I would rather hear yours first. Still, to be fair, let me share some thoughts with you:

Regarding the first question, I believe that the specialization of knowledge is such that, if anything, knowledge monopolies are strengthening and proliferating rather than diminishing or weakening. True, there is more equitable access to all knowledge - but the structural barriers are enormous, almost insurmountable. The resulting filtering process is more rigorous and onerous than ever. Put crudely, everyone has equal access to medicine schools (ignoring the tuition fees). But very few will become cardiologists. Monopolies of knowledge are maintained today more through codes (professional jargon, to name but one) than through the brute force of secrecy. Centres are being abolished and replaced by the multi-centeredness of the market. Copyright, for instance, cannot be enforced where no market exists (in Russia, or China, or the Balkans) - despite the existence of old fashioned centred societies. The decentralized invisible hand of the market replaces - gradually yet surely - the previous power centres.

Regarding the second question, the internet will eliminate the centres of economic power as we know them today. It will do so by revolutionizing entire industries. Just consider the upheaval it has visited upon book retailing, music recording, book publishing and the print media. And this is only the beginning. The process of mass customization coupled with the enormous computing power of even standard desktop computers will ensure the massive and irrevocable re-distribution of economic power and the decentralization of economic production processes. But I do not think that the same will be repeated in other foci of power. I don't think that the political and academic elites will be similarly influenced.

the third question is answered in the affirmative by environmentalist, civil libertarians and "bleeding hearts" liberal advocates of the former third world, now emerging, now submerging. They all contend that our ability to manipulate our environment through codes has reached a dangerous turning point. That the

accumulated outcomes of our past activities endanger our very survival. I strongly disagree. But let us leave something to my next letter.

Awaiting your letter,

Sam

Dear Sam,

Your letter broaches some of the great problems of the (post)-modern world. Though I am not sure whether your conclusions are right. My lack of knowledge of economics hinders my argumentation, but, I would like you to explain to our readers (and to me) the relationship between Market and State. It seems that you consider the market to be FREE of the state. But, is it not precisely the state which guarantees that your copyright will be respected? Who is going to close the factory which is copying your products without your permission? You, perhaps? Your private police?:-). Market is a free market. If there are any regulations (and there are many) then it is not a (free) market (that is to say an exchange between free individuals according to their values), it is simply a state market. It is a great error of economists to observe the market in isolation from reality. So, the decentralized market, the invisible hand, the re-distribution of economic powers and all that jazz are just what they have always been: illusions. But, let us take a look at history to see some examples of market expansion and its supposed de-centeredness.

One of the best, longest and largest use of "the secret art of power" is, undoubtedly, the Roman Ecclesia (which, contrary to the wishes of its master, wanted to establish "a kingdom of this world":-)

"The Catholic Church was not only the great moral authority of that time but also a great financial power" (Pirenne, 1963, 16-17).

"Clerics were the directive elite in matters of rights, administration and organization and the Church itself is the one-and-only solid organization, under whose model grow up the rest of the immature political forms of kingdoms" (Troesch, 1925, 130).

"All the semiotic universe of the Middle-Ages rests on "the sacerdotal monopoly of writing" of the centralized ecclesiastical hierarchy" (Moya, 1984, 253).

By controlling both the knowledge and the financial resources, the Roman Church reigned over the feudalist kingdoms. This monopoly was broken by technology (in a way similar to the one you regard the Internet). The techno-industrial development of the "printing machine" was going to be key, instrumental in the

bourgeois revolutions. (This is the main theme of "The Hunchback of Notre-dame".)

"With Gutenberg, Europe entered the technological phase of progress, when change itself is now the archetypal norm of social life" (Gutenberg Galaxy, McLuhan).

These changes were rounded up with the invention of "Double Entry" by the genial Fray Luca Paccioli. The biases towards the modern world were thus set.

Instead of the supposed free scenery of Reason of the "Homo Tipographicus" (McLuhan), coercion and violence did not disappear, neither did power and fear.

It was Hobbes who first "stated" the state as the real imago of the reason of "homo tipographicus". His words are revealing indeed: "This is the generation of that great Leviathan, better said (stated more reverentially) of that "mortal god", to whom we owe, under the immortal God, our peace and defence". No need to tell you who was Leviathan:-)

Hobbes himself being a weak and fearing person, it is no miracle that all his theory of state is founded on Death, Fear and Violence.

"The passions which moved men into peace are the fear of death..." (Leviathan, Hobbes)

"Death is the political instrument par excellence" (Savater)

"The last instance is in manipulation, it is in the administration of death that power is founded" (L'échange symbolique et la mort, Baudrillard).

This is why secrecy appears where life and death are committed: weapons, food (genetics), state control, etc. The rest are not important: they are open to public.

The belief in liberty, gained through technological improvements is naive. It is lack of authenticity at its highest expression. Political de-centralization was not offered by the printing press (just remember the totalitarian states that followed) nor will it be offered by the Internet and by modern technologies. These are matters not of technology but of men. It was E. Gibbons, the great historian, one of the first to provide a "realistic" counterpoint to the mechanical philosophy of Hobbes and his Leviathan:

"(Monarchy) is simply defined as a state wherein a sole individual has at once the execution of laws, the management of finances and the command of the army command. But, if there is not, for the self-guard, the concern of hard watchers, then that lordship degenerates and ends in despotism. Only a fighting nobility and indomitable subjects, handling the steel in defence of their possessions and

solemnly represented in constitutional boards, can balance the state and conserve its form against the immoderate prince".

Insert "political parties" instead of "prince" and "technology" instead of "state" and you will have a picture of the modern world.

He who places his hopes for liberty upon technology is like the one who calls a lawyer while his mother is being raped. The Internet and other new technologies can offer some possibilities to the individual but they are nothing without a free spirit without fear.

In fact, state control has reached the highest levels ever known. As far as the masses are concerned, nothing have changed - being as atheist and non-religious as they are, they are slaves of their own body (and fear of death). A great, populated city is easy controllable by technology (energy and communications control, food and water, etc.). Kosovo gives us the picture of that modern (anti) war between machines: some neural points hit were enough to reach a techno-military agreement.

The individual, though, always has new answers to these powers. In response to that total coercion of the state and other groups, he can disappear into the net, giving to the word "personae" its old meaning: mask (prosopon in Greek). Converted into a phantasm of information, the individual can attack real state without being attacked. The fight metamorphoses into a Pythagorean one, the new weapons being the crypto-maths. "A small elite will be the guardians of the Temple's Doors" (Global Village, McLuhan).

If the old "contras" used cellars to print their pamphlets and make their reunions - the new free-phantasm could be everywhere, its only contact with reality is its own PC (these situations were studied by mangas (Japanese comics) some years ago). His security now depends on his capacity to maintain in secrecy his own position (the contact point with the web). In a detective/criminal way he must erase his own traces. Is that possible? Which answer would have given our dear great detective Dupin?:-) (I would like to listen to Poe about this one :-))

Another, different question is technical knowledge, which cannot be maintained in secrecy, not only because technical processes are against secrecy but because over all, technicians, as servants of machines, are against secrecy. They want to spread machines and technical knowledge in the universe. In my next letters I will try to make some detective genealogical pursuits (Nietzsche) of secrecy, science and its different ways in East and West.

Wishing you the best and waiting for your response

roberto

Dear Roberto,

Allow me to deviate from my usual behaviour by extensively quoting an article published in ["The Economist"](#) dated October 30th, 1999. The article is titled "Politics and Silicone Valley - Liberty.com":

"The rise of Americas high-tech industry is not just a windfall for presidential hopefuls. It could also be a godsend for the liberal political tradition.

...

After years when it looked as if computers favoured big organisations over small ones, and companies such as IBM appeared to be breeding grounds for conformism, the high-tech industry is arguably putting technology back on the side of individual liberty.

...

The average computer geek is convinced that the rise of clever machines and interlinked networks is inexorably shifting power from organisations to individuals, decentralising authority and accelerating innovation. Not only big companies and big unions, but also big government, seem to be on the point of disappearing. The sort of world the geeks are now conjuring up is a throwback to that of the Founding Fathers, so admired by Republican revolutionaries of the Gingrich mould, where (morally upright) yeomen farmers pursued happiness quite undisturbed by government.

...

Yet ... there is a growing feeling in some quarters that - as in the case against Microsoft - government is not always a force for evil. Indeed, the public sector may hold the key to solving the social problems that now plague the high-tech industry: the shortage of educated labour, the over-strained transport system and the rapidly growing gap between rich and poor.

...

Some computer bosses are already appealing to politicians to get their act together. Andy Grove, the head of Intel, has told congressmen that the Internet is about to wipe out entire sections of the economy - and has warned them that, unless politicians start moving at 'Internet rather than Washington speed', America may see a repeat of the social disaster that followed the mechanisation of agriculture. The high-tech industry is beginning to realise that it is doing nothing less than 'defining the economic structure of the world', says Eric Schmidt, the boss of Novell. And with that realisation comes, for some at least, a heavy sense of responsibility.

...

Libertarians are represented by men like T.J. Rodgers, the boss of Cypress Semiconductor, and Scott McNealy, the head of Sun Microsystems, who argue that government is being rendered largely irrelevant by the power and speed of computers, and that the best way to deal with problems such as the 'digital divide' may well be to extend the market, not invent new government programmes. This is

'compassionate conservatism' - perhaps operating even through beneficent computer companies themselves, offering training and education

...

The progressives, who originally appeared under Bill Packard at Hewlett-Packard in the 1990s, have now fanned out to a growing number of institutions, from Joint Venture-Silicon Valley, a think-tank dedicated to tackling local problems, to TechNet, which now consists of no fewer than 140 high-tech bosses. They argue that there is still an important place for the government in a computer-driven economy - albeit a much smaller and more intelligent government than the one that currently resides in Washington. They love to point out that government funded the research that gave birth to the Internet, and one of their key complaints is that the federal government's R&D spending over the past 30 years has declined dramatically.

...

It is tempting to conclude that the high-tech industry, flush with its new success, is claiming an impact on politics that goes far beyond the facts. Yet politics is a theoretical discipline, as well as a practical one; and here the collusion with high-tech is leading in fascinating directions. Computer-folk are beginning to look outside cyber-land for the answers to their questions about the future of society and government. At the same time, the intellectual and policy establishments are increasingly looking to the Valley, and other high-tech corners, for clues as to the shape of things to come.

...

The latest think-tank in Washington, DC, the New America Foundation, is largely funded by Silicon Valley money and is devoted to exploring the sort of political topics that will be at the heart of the digital age: digital democracy, the future of privacy and the digital divide. New America is in one of the few funky bits of Washington, Dupont Circle. It has scooped up a good proportion of the brightest American thinkers under 40 in its fellowship programme, including Michael Lind, Jonathan Chait and Gregory Rodriguez, and it is making sure that these bright young things interact with the cyber-elite at regular retreats and discussions.

...

So far, the person who has straddled the worlds of social theory and Silicon Valley most successfully is Manuel Castells, a sociologist at the University of California. Mr Castells enjoys a growing reputation as the first significant philosopher of cyberspace—a big thinker in the European tradition who nevertheless knows the difference between a gigabit and a gigabyte. His immense three-volume study, 'The Information Age' (Blackwell), echoes Max Weber in its ambition and less happily in its style (the 'spirit of informationalism', for example). He writes about the way in which global networks of computers and people are reducing the power of nation states, destabilising elites, transforming work and leisure and changing how people identify themselves.

...

Mr. Castells ruminates obscurely about 'the culture of real virtuality', 'the space of

flows' and 'timeless time'. He also castigates the cyber-elite for sealing themselves off in information cocoons and leaving the poor behind. But this former Marxist and student activist cannot restrain his enthusiasm for the way that IT is diffusing 1960s libertarianism 'through the material culture of our societies'. The result is that his sprawling book is now an important fashion accessory in Palo Alto cafes.

...

Will the views it enshrines be more than a passing trend? Very probably. The last time America underwent a fundamental economic change, a fundamental political realignment rapidly followed: the transition from an agrarian to an industrial society in the mid-19th century soon gave rise to mass political parties with their city bosses and umbilical ties to labour and capital. The cyber-elite not only suspects that changes of a similar magnitude are inevitable. It hopes to be able to help shape the new politics.

...

Today's sharpest intellectuals are fascinated by Silicon Valley for the same reason that thinkers early in this century were intrigued by Henry Ford: the smell of huge amounts of money made in new ways. But the Valley has more interest for them than Motown ever had, because it deals in the very stuff of intellectual life, information: and because this, more than any other place, is a laboratory of the future.

...

Individualism has been losing out as a practical doctrine for the past century because the invention of mass production encouraged the creation of big business, big labour and, triangulated between the two, big government. This has been the age not of Jefferson's yeoman farmer, but of William Whyte's Organisation Man. Now, however, computers are shifting the balance of power from collective entities such as 'society' or 'the general good' and handing it back to those whom governments once condescendingly referred to as their 'subjects'.

...

This cult of individual effort, completely detached from the old hierarchical or social structures, can be found everywhere in Silicon Valley. The place is full of bright immigrants willing to sacrifice their ancestral ties for a seat at the table; almost 30% of the 4,000 companies started between 1900-96, for example, were founded by Chinese or Indians. The Valley takes the idea of individual merit extremely seriously. People are judged on their brainpower, rather than their sex or seniority; many of the new Internet firms are headed by people in their mid-20s.

...

The Valley's 6,000 firms exist in a ruthlessly entrepreneurial environment. It is the world's best example of what Joseph Schumpeter called 'creative destruction': old companies die and new ones emerge, allowing capital, ideas and people to be reallocated. The companies are mostly small and nimble, and the workers are as different as you can get from old-fashioned company men. As the saying goes in the Valley, when you want to change your job, you simply point your car into a different driveway.

...

This twofold Siliconisation - the spread of both the Valley's products and its way of doing business - is beginning to challenge the rules of political life in several fundamental ways. And it is doing so, of course, not merely in America but the world over - though America is both farther ahead, and represents more fertile ground.

...

First, the cyber-revolution is challenging the expansionary tendencies of the state. Over the past century the state has grown relentlessly, often with the enthusiastic support of big business. But corporatism has no future in the new world of creative destruction. (It is a safe bet that imitation Silicon Valleys that have been planned by politicians are going to hit the buffers.)

...

The spread of computer networks is also moving commerce from the physical world to an ethereal plane that is hard for the state to tax and regulate. The United States Treasury, for example, is currently agonising over the fact that e-commerce doesn't seem to occur in any physical location, but instead takes place in the nebulous world of 'cyberspace'. The Internet also makes it easier to move businesses out of high-taxation zones and into low ones.

...

One of the state's main claims to power is that it 'knows better what is good for people than the people know themselves'. But the Siliconisation of the world has up-ended this, putting both information and power into the hands of individuals. Innovation is now so fast and furious that big organisations increasingly look like dinosaurs, while wired individuals race past them. And decision-making is dispersed around global networks that fall beyond the control of particular national governments.

...

The web is also challenging traditional ideas about communities. Americans are accustomed to thinking that there is an uncomfortable trade-off between individual freedom and community ties: in the same breath that he praises America's faith in individualism, Tocqueville warns that there is a danger each man may be 'shut up in the solitude of his own heart'. Yet the Internet is arguably helping millions of spontaneous communities to bloom: communities defined by common interests rather than the accident of physical proximity.

...

Information technology may be giving birth, too, to an economy that is close to the theoretical models of capitalism imagined by Adam Smith and his admirers. Those models assumed that the world was made up of rational individuals who were able to pursue their economic interests in the light of perfect information and relatively free from government and geographical obstacles. Geography is becoming less of a constraint; governments are becoming less interventionist; and information is more easily and rapidly available.

...

So far - Mr Castells apart - Silicon Valley has not produced a social thinker of any real stature. Technologists tend not to be philosophers. But at the very least, computerisation is helping to push political debate in the right direction: linking market freedoms with wider personal freedoms and suggesting that the only way that government can continue to be useful is by radically streamlining itself for a more decentralised age.

...

It is a little early to expect that this sort of thinking will colour next year's campaigns; the new alliances between politicians and the cyber-elite have mostly sprung up for the most ancient and pragmatic of reasons. But it may only be a matter of time before America sees, on the back of the computer age, a great new flowering of liberal politics."

To this I wish to add the following facts:

Electronic trading networks allow trading in shares, commodities and goods which is distributed in both time and space. It challenges the old, centralized, models of distribution. Amazon and Barnes and Noble are examples of the New Business model: their inventories are "warehoused" virtually by thousands of small publishers all over the world. E-Trade is an example of the New Stockbroker - no central location, just connections and interactions. The traditional stock exchanges and financial houses - highly centralized affairs - are going through a massive process of de-centralization to cope with these newly emergent threats. An excellent example of the challenge this poses to central government posed by the distributive model is the virtual supercomputer: thousands of PCs all over the world, linked together by the internet and tackling computational problems on a scale hitherto limited to the likes of the National Security Agency (NSA). The SETI project is one such case.

In the near past, to publish a book, or a magazine, or a newsletter - was a major undertaking. Today, tens of millions of people make their work available to tens of millions of people around the world through the web. And there is almost no censorship (except the self censorship - rarely enforced - known as "netiquette").

And the entry barriers have been almost eliminated. Very little time, labour, investment and knowledge are needed today to completely and faithfully replicate businesses that in the past required a lot of resources. So, anyone can "enter". There are no "barriers". You can publish a complete book today and have 300 new readers DAILY - I have done it with my ["Malignant Self Love - Narcissism Revisited"](#). It takes a few hours and about 300 US dollars in communications charges. That's all. More than 30,000 people have read my book hitherto. This far exceeds anything I could have achieved with a print edition.

And this is also the big difference between the printing press and the internet: the barriers to entry were much much higher in the former. For a long time the

technology (printing presses) was nationalized and heavily censored. It can happen with any technology (the Chinese do this to their internet) - but with the web it is so very difficult that it verges on the impossible. Witness the failed American attempts to control their encryption technology by banning the export of encryption software.

Zapatistas, Neo-Nazis, rabbis, Muslim terrorists, psychiatrists, physicists, government agencies - all share the same space on totally equal footing. I repeat: totally equal footing. This is what I call decentralization and it is bound to spill over into the real world.

I will write more about codes in my next letter.

Revolutionary Sam

Dear Sam,

It far from my intention to deny the possibilities of non-linear systems and all that. Multiplicity of info-lines, a wide variety of articulations, the velocity of communication... all those things are good news (I have studied them in my book Chaos AD, using complexity and chaos theories). Interconnectedness and mixing are always good things (let's have in mind Brazilian women:-)

But, unfortunately, that is not the question. From a technical point of view, it could seem that this new "modus vivendi" works. Sure, it works. Equally, a nest of ants works with similar technological perfection - even while "squandering" drones for "state reasons". This kind of technologically perfect organization is likely to be reached. But, finally, what does it mean? Are we just "zoon organizaton"? Obviously not. For sure, we have an organizational urge, but is that all? In spite of the pseudo-Nietzschean "creative destruction" of Schumpeter (which is so handy at justifying our acts while destroying nature) and of the invisible hand of Adam Smith's, if we organize an egocentric pillage, we will reach nothing but organized pillage.

Moreover, all those new theories and dreams are just worthless documents. These technologists fatally ignore the fact that all those arabesques of their spirit are possible precisely due to the centralization of the state (military power). That famous de-centralization of industry is just an appearance. One ought to examine "true" business, things that link to life and death: chemical corporations, oil companies, the weapons industry, etc. All of them are growing. Corporatism is the future. Silicon Valley is the Hollywood of the 90s: the city of Dreams. Who placed trans-oceanic cables? Who has channelled the underground? Novell? Intel? Sun? Of course not. This (seemingly) paradoxical situation was resolved by Romans with the Imperial model. But this takes us too far from our subject. Let's simply

remember that interconnectedness is a good idea, as far as things go normally. If things fade to black then interconnectedness means that our head is automatically/technically at "disposal".

To keep to the subject of secrecy and power: it seems that secrecy is one of the archetypal differences. Covering, secrecy, obscurity were seen by the people of the West as contrary to their ethos. The Greeks, for instance, had only one imposition of secrecy, that of the Eleusian Mysteries. It is interesting to note that Greek priests had no hierarchy and were independent. By comparison, oriental priests (and here we can include, in some way, Catholicism) practice secrecy and had an hierarchy and exerted power.

Someone could trace an analogy between Greek priests and the new prophets of non-linear technology, and so it is, but, we must remember that the Greeks, apart from being democrats, were tenacious warriors. To use computers is a fascinating job and we can do a lot with them, but when the Gestapo knocks at the door, computers disappear like smoke. And the worst thing of all is that our neighbour is to busy with his "PlayStation" and doesn't hear our screams:-)

Some of our readers can argue that we are in a global world - and so these differences are exceptions. Indeed, we are in the global world of machines. But, with these "west and east" distinctions I am not only referring to geographic places but to psychic states (all of us have an internal Gordian knot).

Best regards
roberto

Dear, dear Roberto,

You should have known better than to mention Brazilian women ...:o((How do you expect me to concentrate now and to respond lucidly to your trans-oceanic cables and Greek Priests? Moreover, the surrealistic vision of the neighbour, his "PlayStation" and the Gestapo is really too distracting (might the neighbour believe that the screams are coming FROM his PlayStation?).

Well, back to the tired old staff of historiosophy, secrecy, codes and power. (Brazilian women... ah ...Hmmm....well, here we go:)

This week the Dow Jones Industrials shed a few "brick and mortar" companies in favour of the likes of Intel and Microsoft, which are now part of it. This, I think, is ample proof of the overwhelming and growing importance of the "New Economy" of electrons and cyberspace. One might object to this argument and say that the gap between the world of finance and the world of bytes has virtually vanished lately and that inflated paper values of companies such as Microsoft caused this

mass abandonment of trans-oceanic cables and petrochemicals by the hallowed stock exchange index. But this argument precisely proves my point: ideas, virtual reality, information are the commodities of the present.

Secrecy is, therefore, doomed to die a slow and agonizing death because it is counter-productive, it hinders the efficient allocation of economic resources. It cannot and will not be tolerated by the markets, which demands transparency and efficiency (=immediate dissemination of all available information). The state is now, once more, an instrument of the market. Historically, the modern state has always been an instrument of the market, except for a brief break between 1920 (the rise of Communism, Fascism and Corporatism) and 1989 (the end of Communism). Once seminal instruments of governance, ciphers and secret services were the intelligence and counter-intelligence of the old state. Today, it is the dissemination of information that is the preferred mode of manipulation of the masses. Information is "mass customized" and distributed through infinitely versatile channels. This decentralization indeed does not imply that the state is dead. It only means that it is transforming. The individual will still be crushed but this time by a million other individuals rather than by faceless, Kafkaesque bureaucrats. The state is metastasizing. It is infecting its own citizens, creeping through 100 million modems, penetrating firewalls, seeping through cable TV set-tops. It is atomized, it is devolving into ethnicities and tribes and urban villages. It is a horror movie with a digital face. No longer the conspiratorial-paranoid post-Watergate and post-CIA octopus. No more the beast the anarchists so wished to vanquish and replace. Indeed, the anarchists won a pyrrhic victory - for, today, we live in anarchistic states - modern, surrealistic monstrosities which place the might of whole communities at the disposal of individuals and, at the same time, appropriate the freedom of action of the individual to themselves. How did YOU call it? Ant-hills, indeed. We live in insect colonies. Metterlinck has demonstrated more than 7 decades ago that in a beehive there are no secrets - all information is immediately made available universally.

This is the result of the greatest discovery of them all: that the most secure cipher is a public one, that abundance of information leads to mass ignorance, that superstition thrives on excess "education" propagated through "mass" media, that paranoia breeds on accessibility, that fear is the outcome of responsibility and authority. In an ingenious manoeuvre, the state dissolved itself and recomposed itself even as dissolving. From solid matter it became a gas, from vertebrae it evolved into amoeba, it hid itself completely by sharing everything and attained an omnipresence by disappearing altogether. In this miraculous "dance of the scarves" it was aided and abetted by big business, by its defence establishment, by intellectuals, by the scientific establishment and by the doom-laden sentiment of the "end of history".

Of course, the USA is in the lead and others trail and follow - some with heavy breath and some with bated breath. But the phenomenon of de-centralization and

reinvention of the state is universal. In Zair, in the United Kingdom, in Canada, in former Yugoslavia, in the rump of this epitome of centralism, the USSR - the winds of change are unmistakable: devolution, decentralization, eerie transparency. And very little remains secret for long, ciphers or no ciphers.

I think we all have our "East", contrasted with our derided "West". The Beatles went to India, you dwell on Greece. But the model was uniform all over. Here is an excerpt from the "[Encyclopaedia Britannica](#)" (even this venerable resource ignores the fact that the first codes were the alphabets which later were the vehicles of enlightenment and knowledge):

"People have probably tried to conceal information in written form from the time that writing developed. Examples survive in stone inscriptions, cuneiform tablets, and papyruses showing that the ancient Egyptians, Hebrews, Babylonians, and Assyrians all devised protocryptographic systems both to deny information to the uninitiated and to enhance its significance when it was revealed. The first recorded use of cryptography for correspondence, however, was by the Spartans, who as early as 400 BC employed a cipher device called the scytale for secret communications between military commanders. The scytale consisted of a tapered baton, around which was spirally wrapped a strip of parchment or leather on which the message was written. When unwrapped, the letters were scrambled in order and formed the cipher; however, when the strip was wrapped around another baton of identical proportions to the original, the plaintext reappeared. Thus, the Greeks were the inventors of the first transposition cipher. During the 4th century BC Aeneas Tacticus wrote a work entitled *On the Defense of Fortifications*, one chapter of which was devoted to cryptography, making it the earliest treatise on the subject. Another Greek, Polybius, devised a means of encoding letters into pairs of symbols by a device called the Polybius checkerboard, which is a true bilateral substitution and presages many elements of later cryptographic systems. Similar examples of primitive substitution or transposition ciphers abound in the history of other civilizations. The Romans used monoalphabetic substitution with a simple cyclic displacement of the alphabet. Julius Caesar employed a shift of three positions so that plaintext A was encrypted as D, while Augustus Caesar used a shift of one position so that plaintext A was enciphered as B.

The first people to clearly understand the principles of cryptography and to elucidate the beginnings of cryptanalysis were the Arabs. They devised and used both substitution and transposition ciphers and discovered the use of both letter frequency distributions and probable plaintext in cryptanalysis. As a result, by about 1412, al-Kalka-shandi could include a respectable, if elementary, treatment of several cryptographic systems in his encyclopaedia *Subh al-a'sha* and give explicit instructions on how to cryptanalyze ciphertext using letter frequency counts complete with lengthy examples to illustrate the technique.

European cryptology dates from the Middle Ages, during which it was developed by the Papal States and the Italian city-states. The earliest ciphers involved only vowel substitution (leaving consonants unchanged). The first European manual on cryptography (c. 1379) was a compilation of ciphers by Gabriele de Lavinde of Parma, who served Pope Clement VII. This manual, now in the Vatican archives, contains a set of keys for 24 correspondents and embraces symbols for letters, nulls, and several two-character code equivalents for words and names. The first brief code vocabularies, called nomenclators, were gradually expanded and became the mainstay for several centuries for diplomatic communications of nearly all European governments. In 1470 Leon Battista Alberti published *Trattati in cifra*, in which he described the first cipher disk; he prescribed that the setting of the disk should be changed after enciphering three or four words, thus conceiving of the notion of polyalphabeticity. Giambattista della Porta provided a modified form of square table and the earliest example of a digraphic cipher in *De furtivis literarum notis* (1563). The *Traicté des chiffres* published in 1586 by Blaise de Vigenère contains the square table commonly attributed to him and descriptions of the first plaintext and ciphertext autokey systems."

Cryptic Sam

Dear Sam,

Well, nothing more to add to the letter. Your letter has shown us our modern world and put us just on the line to confront the great questions (by the way, your comment on the PlayStation is very perspicacious. You should see the film "eXistenZ" (directed by David Cronenberg) which explores the all-encompassing coupling (or should we better say marriage) between humans and machines (through the interfaces you have mentioned in your former letters: organic machines/mechanic organisms), but we will get back to this.

Setting aside codes for a while, I want to direct my thoughts to secrets. They are linked. In fact we can add them to one big bundle. It is a obscure and intricate bundle: Life on Earth.

If I understood you well, our situation is, in keeping with cinematic comparisons, like the characters of *Cube*, which are imprisoned within a prison-machine. There are a policemen (male), an old prisoner whose speciality is evasions, a female doctor, a mathematician (who is, curiously, a women), an engineer and an insane boy. None of them knows how and why they found themselves in that prison machine. The machine is labyrinthine. Some rooms are death-traps and all of the rooms are encoded by a number (it seems that numbers are a key to distinguish the "good" rooms from the "bad" (death-trap) ones.

The characters discuss the film all along: What is the machine? Who built it? How does it work? Who manages it? Is there an exit? What is out there?

To the questions of what is the machine and who built it - you (and the engineer of the film) have well responded. It is a great construction, a palace of crystal and titanium, built block by block from the beginning of the second millennium (the engineer confesses to the others that he has designed a part of it but he doesn't know more). As to the question of what is out there, we can conclude that there is, probably, nature - just as Nature has been conceived in all cultures (including ours). To answer who is managing the machine is more obscure but in my worst nightmares always appears a paradoxical thought: it is the machine itself which manages the machine. Regarding this there are various interpretations, some of them positive, some negative (artists have explored them all). The way music metamorphoses with machines is revealing. From composers to the conductors of orchestras. At first, instrumentalists were superior, but then they were overtaken by DJs (the latter are not musicians, rather mere technicians of the music-machine). If we continue the sequence we are going to encounter Hal placing CDs on a futurist-retro disco.

Whether there is an exit is another secret (I don't want to spoil the film by exposing its ending:-). But, seeing how strange and crazy our world is getting, we must go and search for a Father Brown and his wisdom. Does anybody know of a GK Chesterton of the fin du millennia?

And (getting back to "eXistenZ"), a more subtle but not less important question, how are those machines changing us? Is it not true that human faces are getting metallic, rigid, machinelike? What will the sons of the "marriage of earth and machine" look like? Brazilian mulatto women or grotesque radioactive monsters born of the tortured mind of the West mind? And much more important to us, men of today: how can we have a worthy eXistenZ in a Cube?

best regards from a little cube in Madrid

roberto